

CLAIMS

1 A substrate for bioassay in which bioassay based on mutual reaction between probe material and sample material is performed,

the bioassay substrate being constituted so as to have flat plate-shape, and

the bioassay substrate including:

a reaction region adapted so that the sample material and fluorescence marking agent are permitted to be dropped from the upper side, and the probe material is permitted to be immobilized, the reaction region serving as a field of mutual reaction between the probe material and the sample material, and being such that plural wells to which fluorescence with respect to the fluorescence marking agent is irradiated from the lower side are formed, and

an information region where light is irradiated from the lower side to thereby have ability to record and/or reproduce information.

2 The bioassay substrate as set forth in claim 1,

the bioassay substrate being comprised of a substrate including an upper layer portion and a lower layer portion formed at the lower side thereof,

the upper layer portion including the reaction region,

the lower layer portion including the information region.

3 The bioassay substrate as set forth in claim 2,

wherein the information region is formed at a position spaced from

depth of focus of the light in a thickness direction of the substrate from the reaction region.

4 A bioassaying apparatus adapted for performing bioassay based on mutual reaction between probe material and sample material,
the bioassaying apparatus comprising:

substrate holding means adapted for holding and rotationally driving a substrate for bioassay, the bioassay substrate including a reaction region adapted so that the sample material and fluorescence marking agent are permitted to be dropped from the upper side, and the probe material is permitted to be immobilized, the reaction region serving as a field of mutual reaction between the probe material and the sample material, and being such that plural wells to which fluorescence with respect to the fluorescence marking agent is irradiated from the lower side are formed, and an information region where light is irradiated from the lower side to thereby have ability to record and/or reproduce information;

a fluorescence detection optical system for irradiating fluorescence having a predetermined wavelength with respect to the reaction region of the bioassay substrate to detect presence or absence of the fluorescence having the predetermined wavelength produced from the fluorescence marking agent in accordance with the fluorescence; and

an information recording/reproducing optical system for irradiating

light having a predetermined wavelength with respect to the information region of the bioassay substrate to perform recording and/or reproducing operations of information on the basis of a reflected light thereof.

5 The bioassaying apparatus as set forth in claim 4,

 wherein the bioassay substrate is formed so that the entirety thereof is circular-plate shaped, and

 the substrate holding means rotationally drives with the circular plate center being as center.

6 The bioassaying apparatus as set forth in claim 4,

 wherein the bioassay substrate is comprised of a substrate including an upper layer portion and a lower layer portion formed at the lower side thereof, and includes the reaction region at the upper layer portion and the information region at the lower layer portion.

7 The bioassaying apparatus as set forth in claim 6,

 wherein the information region is formed at a position spaced from depth of focus of the fluorescence and light for information recording in a thickness direction of the substrate from the reaction region.

8 A bioassaying method of performing bioassay based on mutual reaction between probe material and sample material,

 the bioassaying method comprising:

 holding and rotationally driving a substrate for bioassay, the bioassay

substrate including a reaction region adapted so that the sample material and fluorescence marking agent are permitted to be dropped from the upper side, and the probe material is permitted to be immobilized, the reaction region serving as a field of mutual reaction between the probe material and the sample material, and being such that plural wells to which fluorescence with respect to the fluorescence marking agent is irradiated from the lower side are formed, and an information region where light is irradiated from the lower side to thereby have ability to record and/or reproduce information;

irradiating light having a predetermined wavelength with respect to the information region of the bioassay substrate to perform recording and/or reproducing operations of information on the basis of a reflected light thereof, and

irradiating fluorescence having a predetermined wavelength with respect to the reaction region of the bioassay substrate to detect presence or absence of the fluorescence having the predetermined wavelength produced from the fluorescence marking agent in accordance with the fluorescence.